TYPE F CONCRETE TRAFFIC BARRIER MSP-00-04E

1.0 Description. This work shall consist of constructing temporary Type F concrete traffic barrier in conformity with this specification and the lines, dimensions and typical sections shown on the plans.

2.0 Materials. All materials shall conform to Division 1000, Materials Details, and specifically as follows.

2.1 Steel. The size and dimensions shall be as shown on the plans.

2.1.1 Except as noted herein, all barrier reinforcing steel shall be deformed bar meeting AASHTO M 31, Grade 60 (420) in accordance with Sec 1036.

2.1.2 The loop steel shall be plain round bar meeting AASHTO M31, Grade 60(420), except it may be bent to the radius shown on the plans. The steel shall otherwise be in accordance with Sec 1036.

2.1.3 Connector pin steel, including top and bottom plate washers, shall meet AASHTO M 183. The connector pin keeper bolt and nut shall meet AASHTO M 164. All units shall be physically marked as required by the specification and properly identified for inspection. Manufacturer certifications shall be supplied for all units. Acceptance will be based on identification, physical measurement, and certification. Additional sampling may be performed at the option of the engineer.

2.1.4 Wire mesh shall be AASHTO M 221 deformed bar.

2.2 Concrete. The concrete shall be Class A-1 or B-1 in accordance with Sec 501, placed and finished in accordance with applicable provisions of Sec 703. The air content shall be 6.0 plus/minus 1.5 percent. Approved concrete additives or high range water reducers may be used. When high range water reducer is used, the slump prior to introduction of the admixture shall not exceed 3 inches (75 mm), and the final slump shall not exceed 8 inches (200 mm).

3.0 Construction Requirements. Concrete barrier units shall conform to the dimensions shown on the plans. The forms shall be mortar tight and sufficiently rigid so that a smooth, non-deformed surface meeting the specified tolerances is provided.

3.1 Welding of loop steel is limited to the minimum surface welding necessary to maintain the position required for placement. Surface welds shall be inspected by the Engineer prior to placement of any concrete. Any indications of welding beyond the surface of the bar will be cause for rejection of that bar.

3.2 Concrete barrier units shall not be removed from the forms until a minimum of 1750 psi (12 MPa) is attained and shall be continuously cured until 5000 psi (35 MPa) is attained. Exposed concrete immediately after casting shall be protected from any water loss by use of plastic sheeting or damp burlap. After form removal, all units shall immediately be wetted and continuously cured in accordance with Sec 1026.16 except that Type 2, white pigmented, curing compound shall not be used. During all curing, the units shall be kept damp or well coated with curing compound at all times.

3.3 Concrete barrier units shall be straight and square on the ends and shall meet the following tolerances:

Length +/- ¾" (19 mm)
Width +/- ¼" (6 mm)
Height +/- ¼" (6 mm)

3.4 Concrete barrier units shall be substantially free of honeycomb, surface spalling, and surface defects. Corner breaks and spalls on new units shall not exceed 1 square foot (0.1 square meters) of surface, including the base, at the time of shipment from the manufacturer. Corner breaks and spalls for units placed on the project location shall not exceed 5 square feet (0.5 square meters) of surface including the base, at the time of placement.

3.5 All units shall have the name and location of the manufacturer and the year of manufacture clearly and permanently marked on the top or the end, by indentation, plates or other suitable methods, where it is identifiable after installation. Paint or other liquid marking is not considered suitable for this information. The day and month of production is also required for tracking prior to initial use, and may be either permanently marked at the same time as the other required information, or may be applied by using permanent ink in the same location. Units which cannot be clearly identified shall not be accepted or used.

3.6 Connecting loops shall be true to dimensions and not deformed. Concrete barrier units with any visual cracks in the steel forming the connecting loops, at any time, shall be rejected.

3.7 When units are connected, the gap between units shall not exceed the dimensions shown on the plans.